

10/586696

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
9 September 2005 (09.09.2005)

PCT

(10) International Publication Number  
**WO 2005/084025 A1**

(51) International Patent Classification<sup>7</sup>: **H04N 7/173**

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number:  
**PCT/US2004/004928**

(22) International Filing Date: 18 February 2004 (18.02.2004)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): THOMSON LICENSING S.A. [FR/FR]; 46, Quai A. le Gallo, F-92648 Boulogne Cedex (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): GERVERAIS, John [US/US]; 11388 Royal Court, Carmel, IN 46032 (US). DERRENBERGER, Mike [US/US]; 11721 River Ridge Drive, Fishers, IN 46038 (US).

(74) Agents: TRIPOLI, Joseph, S. et al.; 2 Independence Way, Princeton, NJ 08540 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND APPARATUS FOR OPTIMIZING BANDWIDTH IN BROADCAST/MULTICAST VIDEO SYSTEMS

301

<u>304</u> channel identifier	<u>306</u> program channel downstream frequency	<u>307</u> PID	<u>308</u> selection status	<u>309</u> replacement status
CH <sub>1</sub>	F <sub>1</sub>	PID <sub>1</sub>	selected	available
CH <sub>2</sub>	F <sub>2</sub>	PID <sub>2</sub>	not selected	available
•	•	•	•	•
CH <sub>J</sub>	F <sub>J</sub>	PID <sub>J</sub>	selected	not available

WO 2005/084025 A1

(57) Abstract: An upstream distribution point of a video distribution system adjusts programming to replace content that is not selected. In particular, an upstream distribution point of a cable broadcast system receives tuning data representing the currently tuned, or selected, program from one or more set-top boxes via Internet Group Management Protocol (IGMP) signaling. The upstream distribution point collects the tuning data from the one, or more, set-top boxes and replaces at least one of those programs not selected with alternative programming or content.